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M E M O R A N D U M

SUBJECT: Scientific Intelligence

There are certain peculiarities which affect the field of Scientific intelligence and the position which it occupies in relation to other forms of intelligence. In the first place, there is the absence of an agreed understanding of what is involved in "scientific intelligence", including the question of whether it is concerned primarily with "pure science" or "applied science". There is also the fact that scientific intelligence is of general interest to the entire scientific world and does not affect only the national security. This is unlike the field of military intelligence, for example, which is almost exclusively of interest to professional military people. One aspect of this situation is that in science many of the most competent personnel are outside of Government service and certainly outside of service in the national security agencies. The problem of putting them to effective use for scientific intelligence purposes affecting the national security creates, in consequence, difficulties over the proper security precautions which need be observed and the relations between the scientists and the military. There are also certain questions as to whether the primary interests and loyalties of the scientists rest with their profession and with the desire thereof to increase the general fund of scientific knowledge or with scientific intelligence, its special needs and its security requirements.

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Because science contributes to almost all phases of the mobilization and war capabilities of a nation and to its offensive and defensive power, interest in scientific intelligence is scattered in many places. The various Armed Services, holding it to be their proper responsibility to attack and defend with their respective arms, feel that they do not have an identical interest in scientific intelligence, but that each has an interest corresponding to the offensive or defensive missions of the particular Service. As a result of this and of the fact that interest in scientific matters is so widely scattered throughout the Government and outside, there has been little progress in developing a central organization for scientific intelligence or in defining the respective spheres of the different Services or the interests which they have in common.

Finally, there is a peculiar situation today in which, for practical purposes, an artificial distinction exists between "nuclear" and "non-nuclear" science. A variety of legislative and historical considerations have contributed to this distinction, which obviously has no validity but, as a practical fact, it cannot be ignored in organizing and developing scientific intelligence.

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Scientific intelligence, as it affects the national security, is handled in a number of different places. There is no clear-cut delineation of functions or responsibilities, and there is no effective machinery for coordination, except in limited respects. The agencies concerned as producers and consumers include the State Department,

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Army, Navy, Air Force, Atomic Energy Commission, Research and Development Board, Central Intelligence Agency, Joint Chiefs of Staff, and the Armed Forces Special Weapons Project. This list, of course, does not include the non-military agencies, such as the Department of Agriculture, the Bureau of Standards, Weather Bureau, and National Security Resources Board, all of which have a real interest in this problem as well as a contribution to make. For present purposes, we can limit ourselves to the agencies which are primarily concerned with scientific intelligence as it affects the national security, although we must assure ourselves that these agencies are drawing assistance from other sources.

The collection of scientific intelligence is carried on by a number of agencies operating in the United States and abroad. The National Security Council Intelligence Directive No. 2, dealing with collection, does not assign the dominant interest for scientific intelligence to any department, but prescribes that each agency will collect scientific (as well as economic and technological) intelligence "in accordance with its respective needs". As a result, the Army, Navy, Air Force, and State Department are all, to the extent that they individually choose, collectors of scientific intelligence. In addition,

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One step toward some centralization of collection is the proposed establishment, under the State Department, of a

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system of Scientific Attaches, whose purpose, as now proposed, would be "to collect intelligence information on scientific matters, fundamental research, and applied research and development, which transcends the competence and/or responsibility of the other attaches". Some centralized collection in this field is also being done through communications intelligence.

The collection procedures, the assignment of requirements, and the determination of priorities are not made in accordance with any over-all plan centrally controlled and coordinated. Each collecting agency gives the assignments it wishes to its own collectors, although it may receive and handle requests from other agencies. In cases where a collection request is sent to CIA, the Office of Collection and Dissemination attempts to canvass the collection possibilities throughout the Government and to see to it that the collection request is sent to all collection agencies inside and outside CIA which might be in a position to make a contribution. However, the Office of Collection and Dissemination is able to act only with respect to those collection requests that come into CIA from the outside or which are passed from one part of CIA to another. There is no coordinated procedure with respect to the whole field or individual parts thereof (except for atomic energy) whereby the experts in and consumers of scientific intelligence develop their collection requirements in close consultation with each other and with the collectors.

In the case of atomic energy intelligence there is the same multiplicity of collecting agencies (SO, OO, Army, Navy, Air, State,

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and the AEC), but the problem has been somewhat differently handled. Because of the concentration of responsibility for atomic energy intelligence in the Nuclear Energy Group of CIA, which has worked closely with the nuclear energy specialists of Army, Navy and Air, there has been a greater measure of coordination in this field of scientific collection than in the others. The chief collection difficulty has arisen between the Nuclear Energy Group and AEC, whose facilities have been used informally for collection, without all of these facilities having been placed at the disposal of the Nuclear Energy Group. It is to be hoped, however, that this situation will be remedied if other difficulties can be worked out and as a result of the association of Dr. Colby with the Atomic Energy Commission and his working together with the Nuclear Energy Group.

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With certain exceptions governing the case of particularly sensitive materials such as atomic energy intelligence or communications intelligence, there seems to be fairly broad dissemination of all scientific intelligence received in Washington. The principal difficulties seem to arise out of the dissatisfaction of the expert consumers when they are not allowed to have access to information concerning the source of the intelligence they are called upon to use. Scientists who are called upon to evaluate highly specialized information claim that they cannot do their job properly unless they have full access to raw information and complete knowledge of sources. This problem has been particularly acute in the case of atomic energy and the present

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arrangement whereby Dr. Colby of the Atomic Energy Commission is to have full access to all source material is a recognition that the resolution of this dilemma hinges upon an agreement that the expert consumer needs to be satisfied as to the validity of the information handed to him. If this problem has not arisen so acutely for other fields of scientific intelligence, the only reason may be that there has been less activity in those fields. It may be that the same difficulties exist there and would become evident if the persons working in these fields had concerted and coordinated their efforts to an extent that caused them to become more conscious of the difficulties handicapping their work.

One further difficulty lies in the fact that not all available printed material can be put to effective use because of the language difficulty. The systematic study of foreign literature is hampered by a shortage of security-cleared personnel possessing the necessary language and other qualifications.

Except in the field of atomic energy intelligence where there is still room for improvement, there is no means for producing what might be considered national scientific intelligence estimates. In other words, although scientific intelligence is an object of concern to a number of individuals in different agencies, there is no recognized way of producing an agreed and authoritative estimate of a problem. Under National Security Council Directive No. 3, each agency is responsible for the production of scientific intelligence "in accordance with its respective needs". One would expect to find that the Scientific

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Branch in CIA-ORE performed the function of drawing together and coordinating the production of scientific intelligence estimates. This has not happened. The reason may be the slowness of the Scientific Branch in forming its organization or it may rest in the conception that its [redacted] has of its mission, being, as he is, more interested in science for science's sake than in scientific intelligence. Also, the Scientific Branch may be suffering from some of the same uncertainty that affects the entire ORE organization so that it is not clear whether ORE is just another producer of intelligence or has the responsibility for coordinating the efforts of other agencies. The fact remains that there is no recognized method by which coordinated estimates, generally recognized as valid, are produced. The Research and Development Board, which obviously has a major interest in scientific intelligence, frequently complains, and with reason, of this deficiency.

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The principal problem in the scientific intelligence field seems to be how to develop a coordinated effort which will make it possible--

- (a) To plan collection requirements and methods in coordination with the collectors.
- (b) To establish priorities.
- (c) To produce authoritative estimates which result from their concerted efforts.

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This concerting of efforts should also result in bringing to light cases where there is a dangerous gap between the collectors and the consumers and where the analysts require information to which they are not now given access.

Assuming that CIA continues to have the responsibility for the coordination of intelligence, it seems necessary that in the scientific field steps should be taken so that CIA understands and more effectively discharges that responsibility. In strengthening the scientific work of CIA it may be desirable to consider consolidating it in one place rather than leave it scattered, as at present.

It seems unnecessary at this time to press forward with any further inquiry of the atomic energy intelligence picture, although we should follow closely the way in which the new arrangements work out between the Atomic Energy Commission and CIA.

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## Re Scientific Intell.

Essential problem

- artificality of AE
- treatment
- of uses of fire for military
- radar - use
- primary responsibility that of military who must apply invention

But also imp.

- to know of new developments potentially
- weapons
- for enemy
- for us

args - military men should have benefit of

- assist & consultation of scientists
- notion of potential weapon

Maybe exception where portion of scientific field is devoted primarily to weapon research e.g. AE.

(2)

Re O.C.D.

Where has co-ordinating  
of collection gone?

- is there not a diff.  
between sending to the  
library for a book & including  
an intel. collection project

- who does overall  
planning of intel.  
collect.

- who knows all  
outstanding projects

- who is thinking  
up new ones

Re Am M.

Major

1) Recruitment

- any system - if so  
update

2) Promotion any principle  
if so what

Minor

- should be cut down to size

Ford B.P. Page Survey for efficiency